AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Previously Presented) A distributed feedback semiconductor laser comprising:

opposed first and second end surfaces through which light generated within the semiconductor laser may be emitted;

a central phase-shift structure located substantially centrally between the first and second end surfaces; and

first and second diffraction gratings respectively extending from the central phase-shift structure to the first and second end faces and having respective, different periods, wherein an average coupling coefficient $\kappa 2$ of the second diffraction grating is smaller than an average coupling coefficient $\kappa 1$ of the first diffraction grating, and the coupling coefficient $\kappa 2$ exceeds 100 cm^{-1}.

2. (Currently Amended) The distributed feedback semiconductor laser according to claim 1, wherein absolute value of a real part of a coupling coefficient is at least four times absolute value of an imaginary part of the coupling coefficient.

3. (Previously Presented) The distributed feedback semiconductor laser according to claim 1, including a plurality of phase-shift structures located at substantially symmetrical positions with respect to the central phase-shift structure and in the first and second diffraction gratings.

Claims 4 and 5 (Cancelled).

6. (Previously Presented) The distributed feedback semiconductor laser according to claim 1, wherein each of the first and second diffraction gratings includes alternating regions of higher and lower refractive index materials and the ratio of higher

to lower refractive index materials is larger in a region having the coupling coefficient $\kappa 1$ than in a region having the coupling coefficient $\kappa 2$.

7. (Currently Amended) ~~The~~ A distributed feedback semiconductor laser ~~according to claim 1~~ comprising:

opposed first and second end surfaces through which light generated within the semiconductor laser may be emitted;

a central phase-shift structure located substantially centrally between the first and second end surfaces; and

first and second diffraction gratings respectively extending from the central phase-shift structure to the first and second end faces and having respective, different periods, wherein an average coupling coefficient $\kappa 2$ of the second diffraction grating is smaller than an average coupling coefficient $\kappa 1$ of the first diffraction grating, and the coupling coefficient $\kappa 2$ exceeds 100 cm^{-1}, wherein

each of the first and second diffraction gratings includes alternating regions of higher and lower refractive index materials,

the regions having a higher refractive index have a layered structure, and

the number of layers of the higher refractive index regions in the first diffraction grating and having the coupling coefficient $\kappa 1$ is larger than the number of layers of the higher refractive index materials in the second diffraction grating having the coupling coefficient $\kappa 2$.

8. (Currently Amended) ~~The~~ A distributed feedback semiconductor laser ~~according to claim 1~~ comprising:

opposed first and second end surfaces through which light generated within the semiconductor laser may be emitted;

a central phase-shift structure located substantially centrally between the first and second end surfaces; and

first and second diffraction gratings respectively extending from the central phase-shift structure to the first and second end faces and having respective, different

periods, wherein an average coupling coefficient $\kappa 2$ of the second diffraction grating is smaller than an average coupling coefficient $\kappa 1$ of the first diffraction grating, and the coupling coefficient $\kappa 2$ exceeds 100 cm^{-1}, wherein a layer supporting the first and second diffraction gratings has a thickness smaller in a region having the coupling coefficient $\kappa 1$ than in a region having the coupling coefficient $\kappa 2$.

9. (Previously Presented) The distributed feedback semiconductor laser according to claim 1, wherein equivalent refractive index in a region having the coupling coefficient $\kappa 2$ is n2, equivalent refractive index in a region having the coupling coefficient $\kappa 1$ is n1, the period of the second diffraction grating in the region having the coupling coefficient $\kappa 2$ is $\Lambda 2$, the period of the first diffraction grating in the region having the coupling coefficient $\kappa 1$ is $\Lambda 1$, and $n2 \cdot \Lambda 2$ is substantially equal to $n1 \cdot \Lambda 1$.